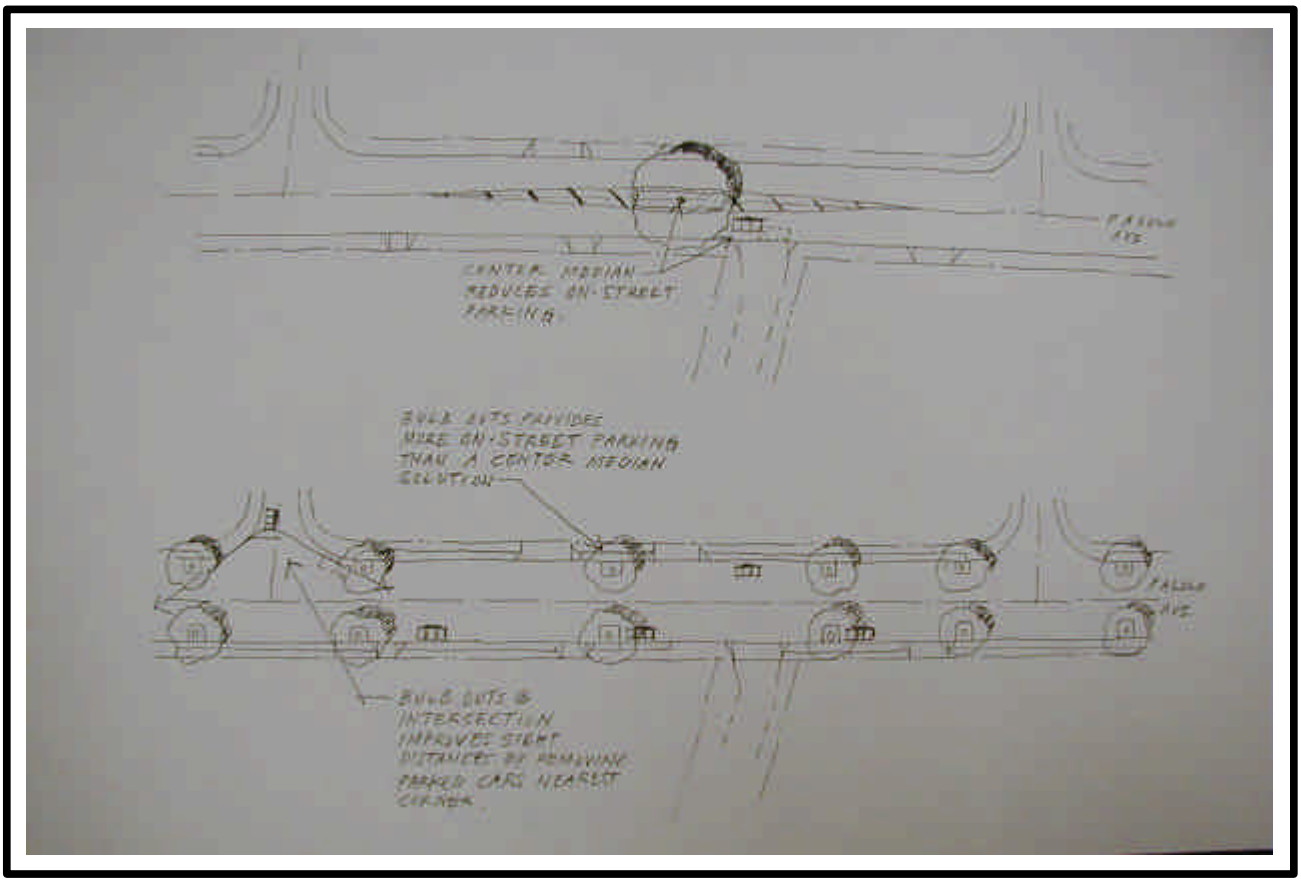
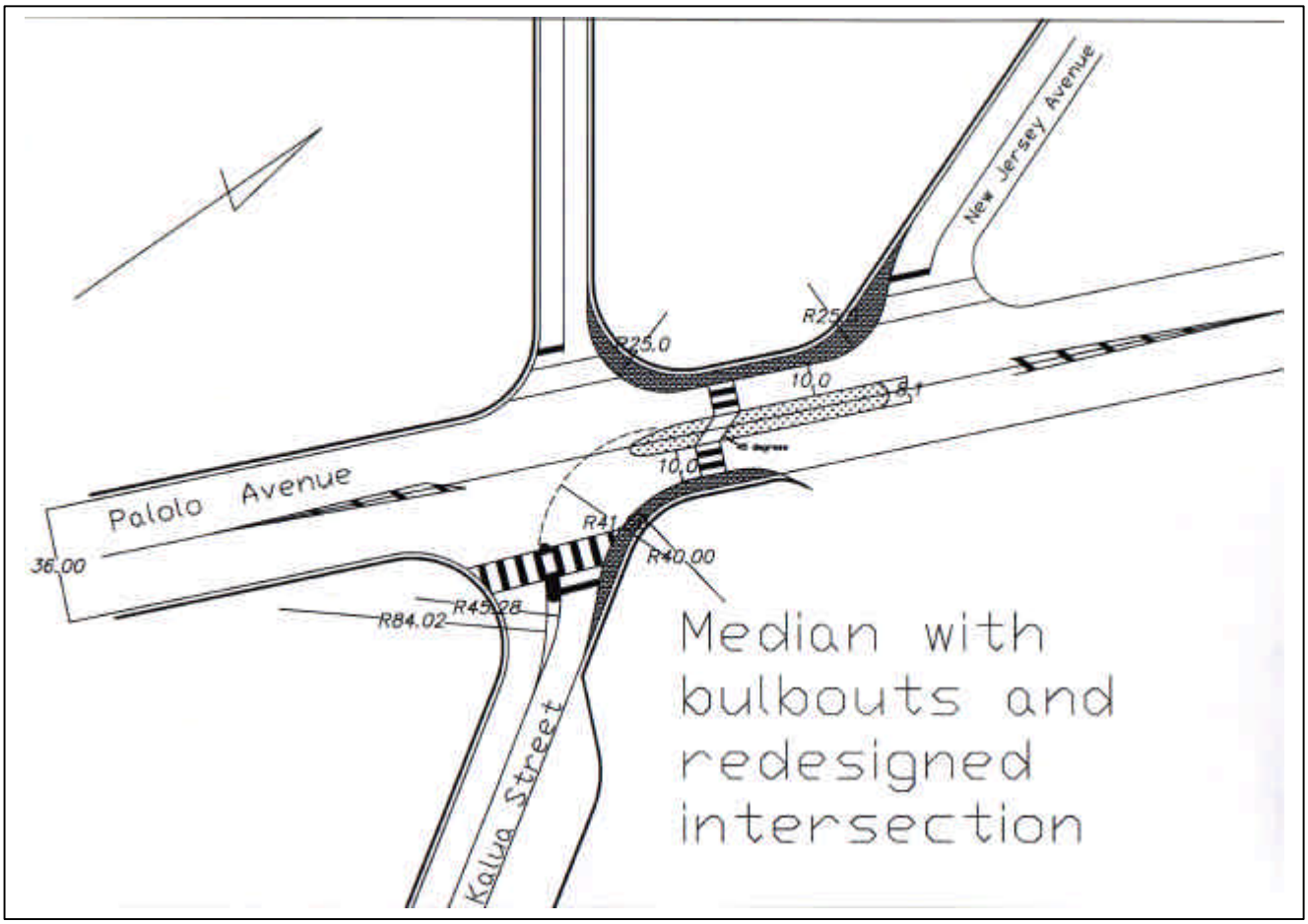


Both Palolo Avenue and 10th Avenue are wide streets with high traffic volumes. Motorists tend to travel most quickly down these roads because there is nothing to break their travel pattern or change the dimensions of the travel way. Residents asked for ways to slow traffic, narrow the crossing distance for pedestrians and yet maintain and protect the parking. The Traffic Calming Team came up with two solutions from which the neighborhood may select.

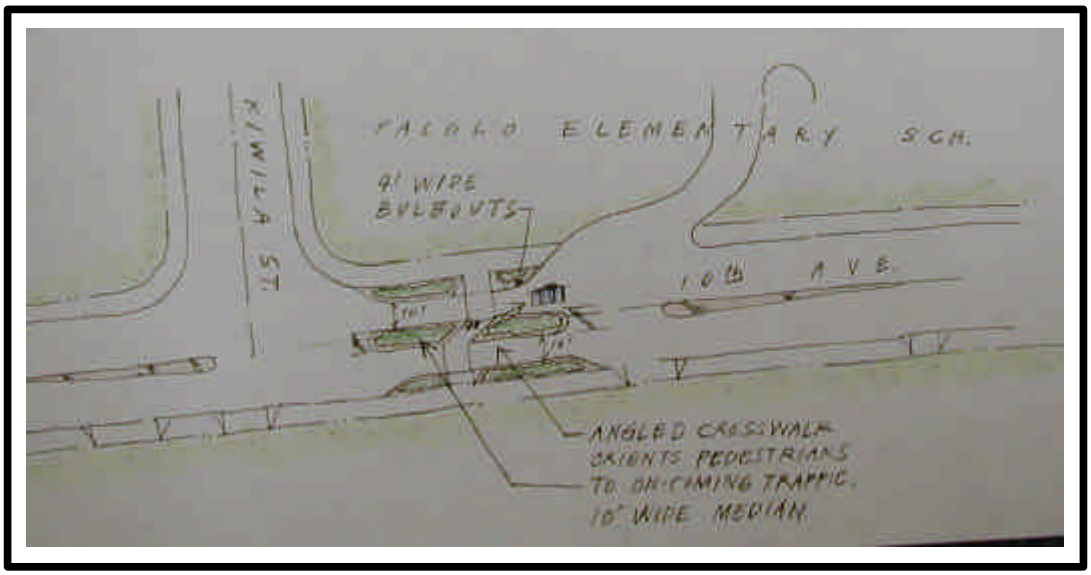
The first solution shown at the top of the page is a landscaped median treatment. This will narrow the lane width, and provide a refuge point for pedestrians making their way across the street. The draw back to this approach is that parking would need to be prohibited in the area of the median. It would provide a safe and attractive solution, but some neighbors would no longer be able to park directly in front of their homes.

The second solution is to periodically place landscaped bulbouts. This treatment serves to narrow the travel way in more places but for smaller distances than a median. It provides the same narrowing affect for pedestrians and chokes down traffic to thereby slow the motorists' speeds. The bulbouts act as protection for parked cars. However, approximately 1 and a half car lengths are needed for the bublbout placement. This would eliminate nearly 1 and a half parking space per bulbout, however almost every home would retain at least one parking space directly in front of the property.



Residents at the traffic calming charrette mentioned that some treatment was necessary for Palolo Avenue at Kalua Street and New Jersey Avenue. There is a fair amount of pedestrian traffic at this location. Kalua is one of the few streets that fully traverse the valley, making it heavily traveled.

In order to slow traffic and make it easier for pedestrians to cross the traffic calming team recommends introducing a curb extension on the Ewa side of the road that wraps all the way around from Kalua Street to New Jersey Avenue. In addition, a curb extension would be necessary on the opposite side of Palolo mauka of Kalua Street. A median island on Palolo Avenue between the curb extensions could serve as a pedestrian refuge. The crosswalk could be angled through the median. Splitter islands could be painted on Palolo Avenue approaching the intersection from either direction. An international style crosswalk could be painted on the Diamond Head side of Kalua Street at the intersection.

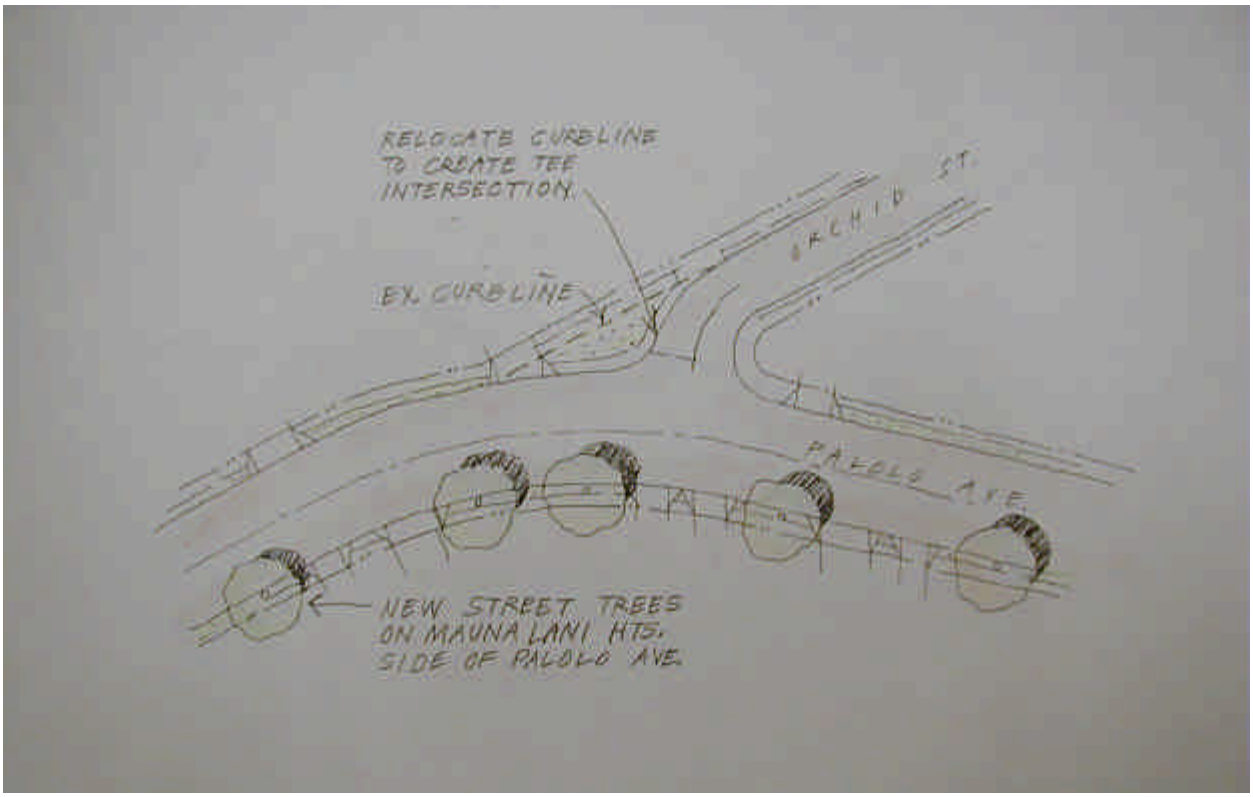


Kiwila is the most heavily traveled cross street through the valley. Palolo Elementary School sits at the corner of 10th and Kiwila. Residents asked for the Traffic Calming Team to slow traffic near the school and allow better access for children to cross the street at this intersection.

The Team concluded that the best way to facilitate walkers and young children across the street was to include a median and a 4-foot wide bulbouts just mauka of the intersection. This treatment allows pedestrians to safely cross away from the intersection, thereby reducing the number of conflicts for contention.

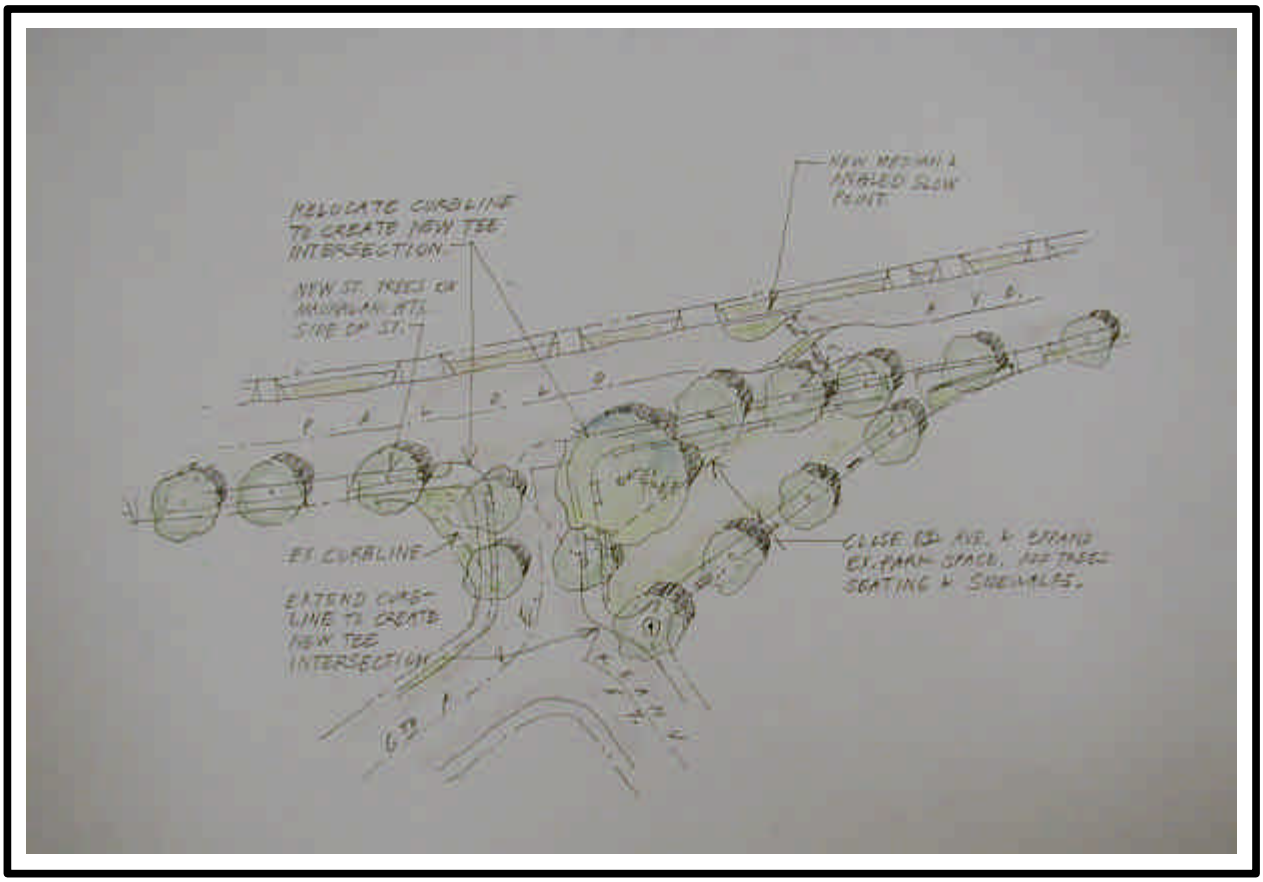
Residents suggested at the follow-up meeting that the Palolo Elementary School driveway be reconfigured. It was noted that the driveway traverses a relatively steep grade. As cars come up out of the parking lot headed on to 10th, they must build up speed in order to make it up the hill. This could create conflicts for pedestrians because the driver cannot see to the top of the hill although the motorist is moving quickly and with a reduced reaction time.

The Team's engineering staff is considering an option to realign the driveway under the understanding that several drainage issues and structural challenges come into play in this situation.



At the neighborhood charrette, residents complained that motorists speed around the curve on Palolo at the top of the Valley. They mentioned having sight-distance problems coming off Orchid or around the curve in Palolo. Orchid does not meet Palolo at a 90-degree angle, causing an overly wide turning radius, which allows motorists to shoot down off Orchid and onto Palolo. Presently there are stop signs at the lane traveling makai on Orchid and the lane traveling Ewa on Palolo.

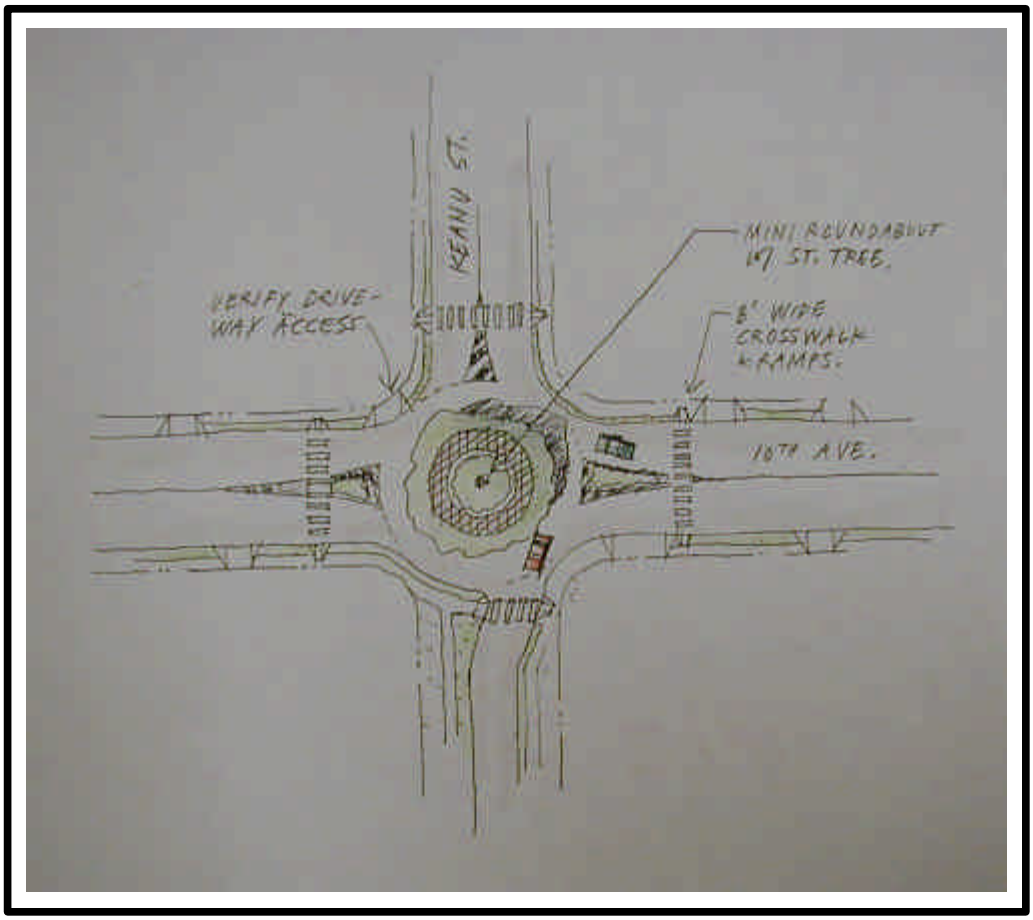
The Traffic Calming Team recommends that the intersection be realigned to make Orchid intersect with Palolo at a 90-degree angle. This can be done by extending the curb line at the mauka/Ewa corner. It is suggested that both stop signs (traveling makai on Orchid St. and Palolo Ave.) be left in place. This treatment will also serve to narrow the crossing distance for pedestrians and better define areas where it is appropriate for them to cross. In addition, a median could be added to Palolo Ave. to better control speeding around the curve.



From the Traffic Calming Team's initial analysis of the area, it was noted that statistically the intersections of Palolo, 6th and Keanu have had the highest number of pedestrian and bicycle related accidents in the Valley. Residents complained of some speeding, and a great deal of confusion here. Because 6th meets Palolo at an obtuse angle, the intersection and paved area at this corner is very wide. It is unclear where pedestrians should cross. Regardless of the path they choose, pedestrians have over 40ft of pavement to cross.

The Team suggests several treatments for this intersection. First, close 6th Avenue from Keanu Street to Palolo Avenue. This completely eliminates the obtuse angle at the intersection and increases the size of the park at the corner. Keanu and 6th would then meet and enter Palolo as one road. Secondly the curb line should be extended at the mauka/Koko Head corner of Palolo and the old Keanu intersection.

Finally, an angled slow point with a bulbout could be introduced on Palolo just makai of the old Palolo and 6th intersection. This will serve to slow traffic before the new intersection of 6th and Palolo and provide a reasonable location for pedestrians to cross. A second option would be to use a median island with bulbouts located makai of the intersection of Keanu and Palolo.

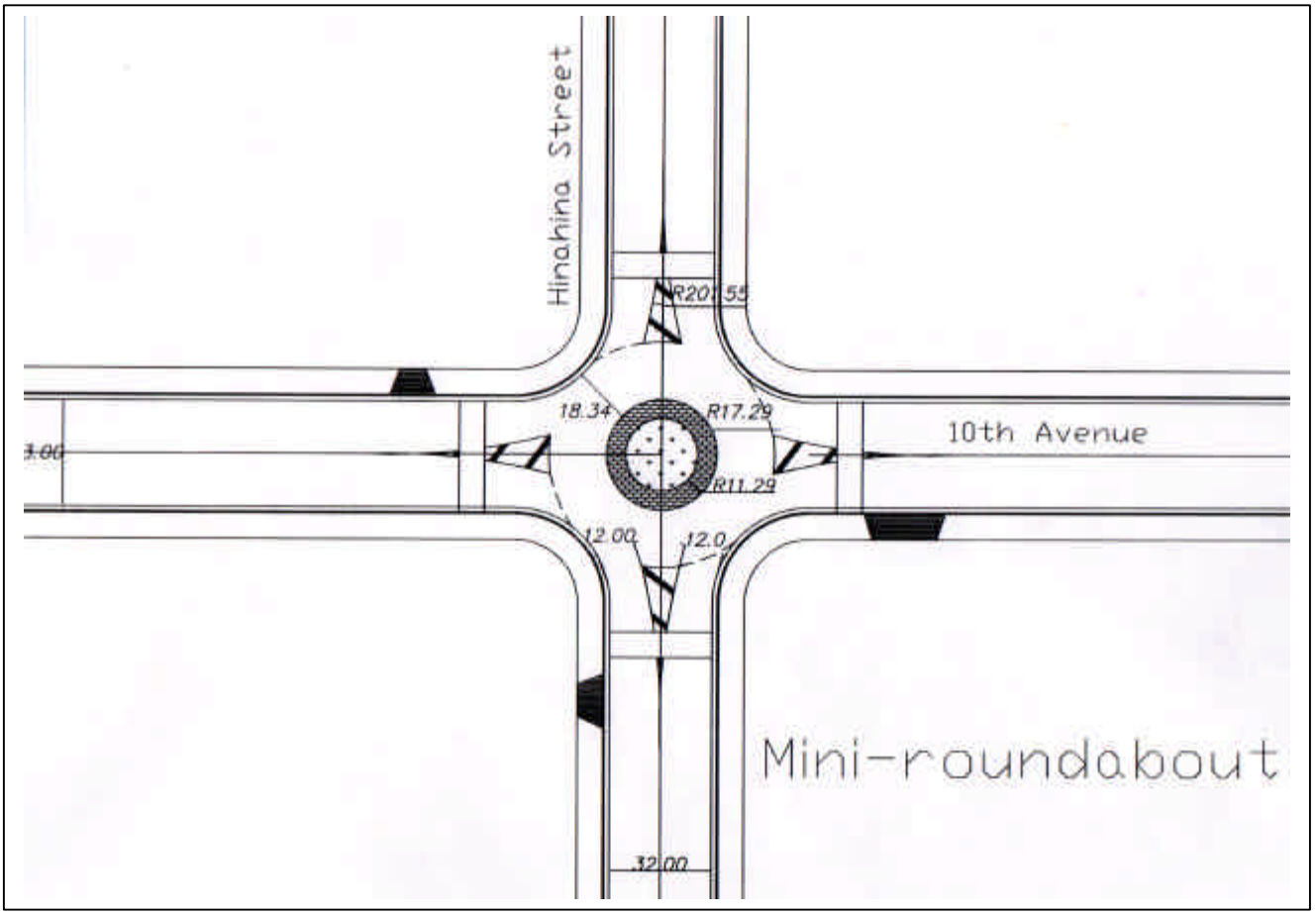


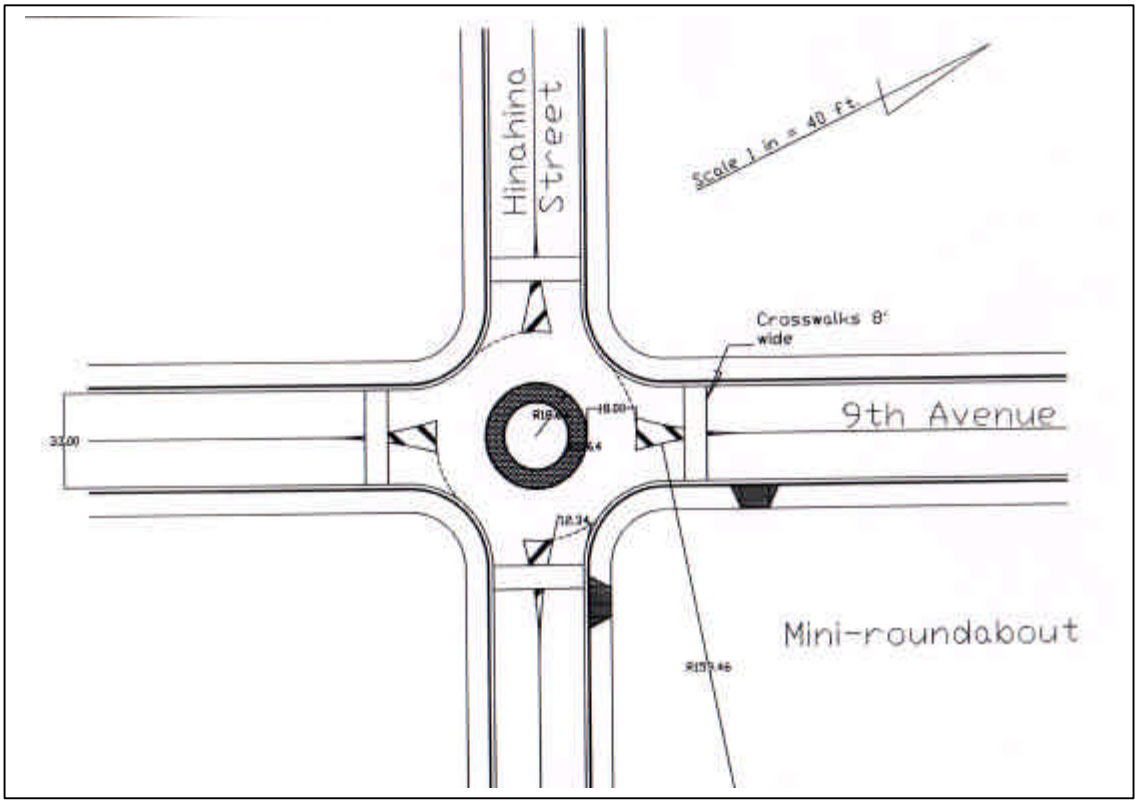
One of the recommendations that residents suggested frequently was the use of roundabouts or mini-circles. These devices deflect traffic around a center island and slow the speed of traffic both by the actual deflection and because the center island creates a terminating vista for the driver. If a motorist cannot see clearly around an object, they are likely to slow down.

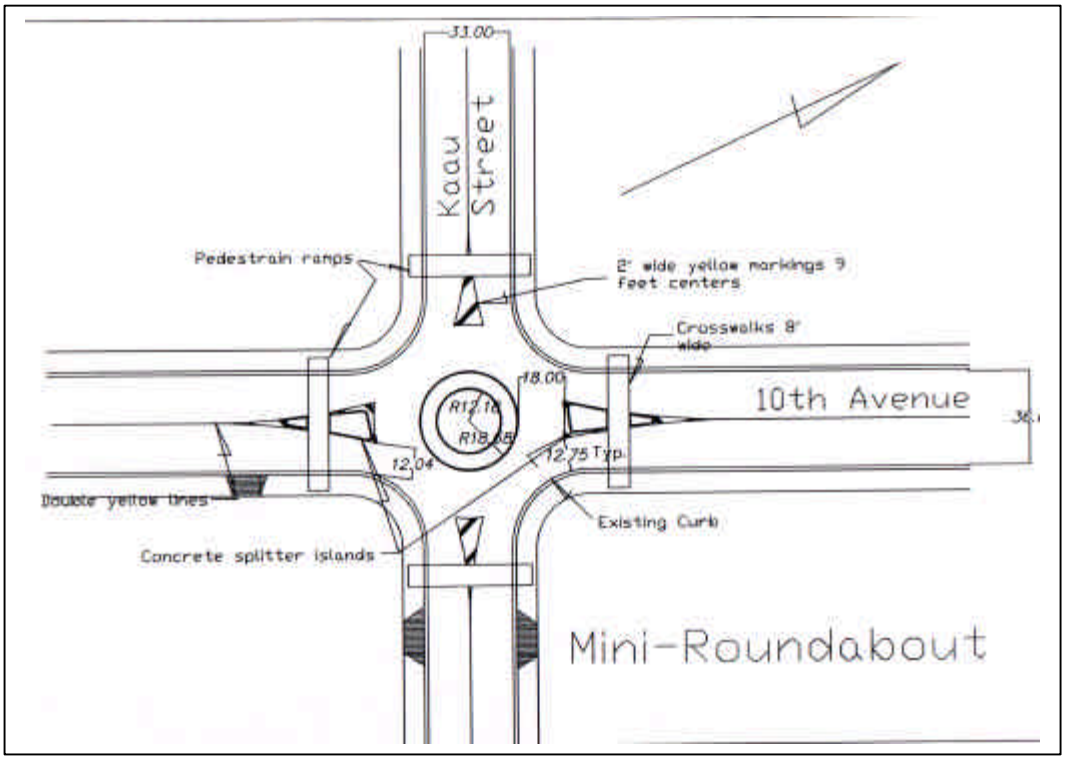
Above is the design for a roundabout at the corner of 10th Avenue and Keanu Street. This is a typical roundabout to be placed throughout the Valley. The Traffic Calming Team believes these will work well both on 10th and 9th at various intersections. The use of either a minicircle or a roundabout is recommended for all of the following intersections:

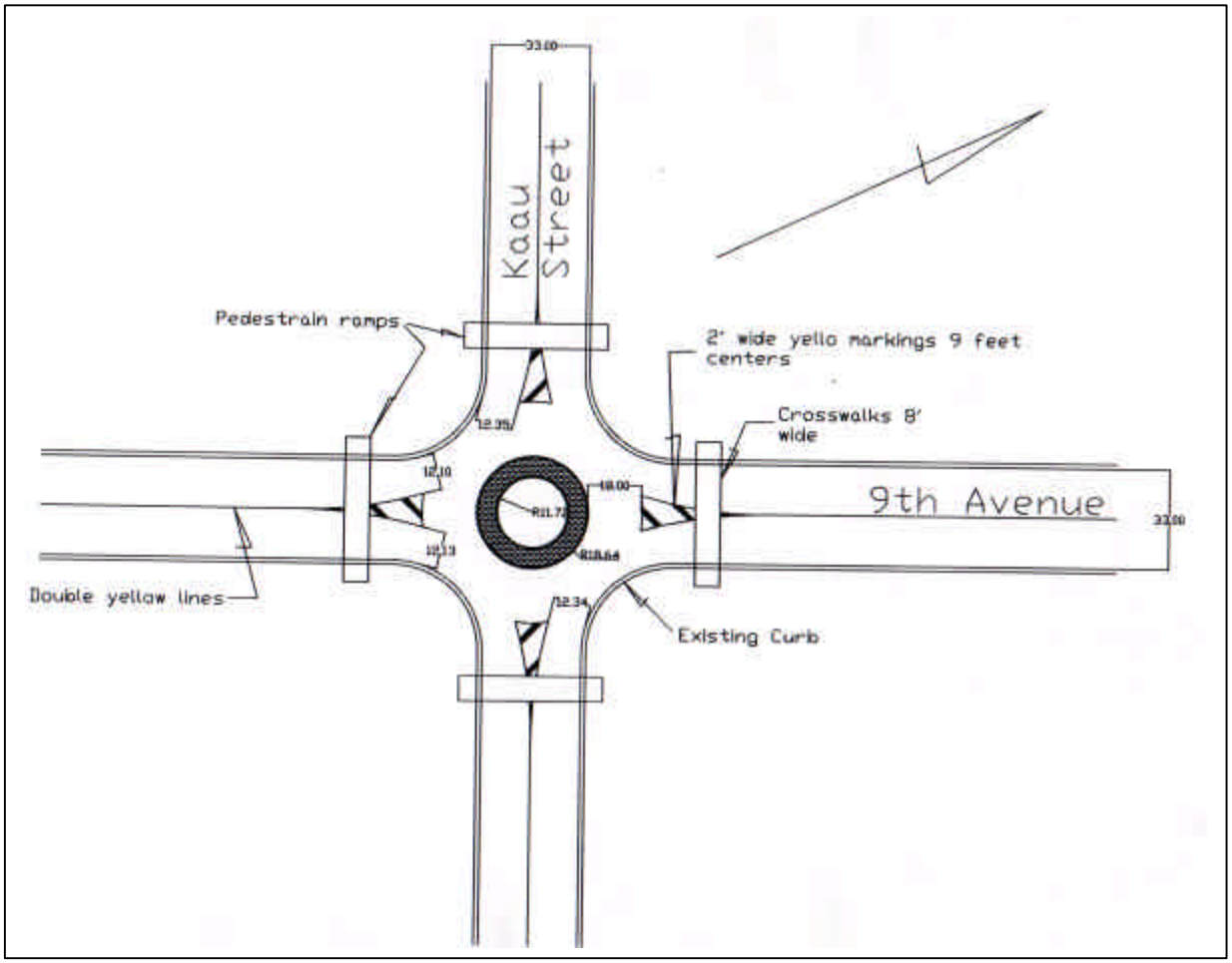
- Kalua and 9th
- Kaau and 10th
- Kaau and 9th
- Keanu and 9th
- Keanu and 10th
- Hinahina and 10th

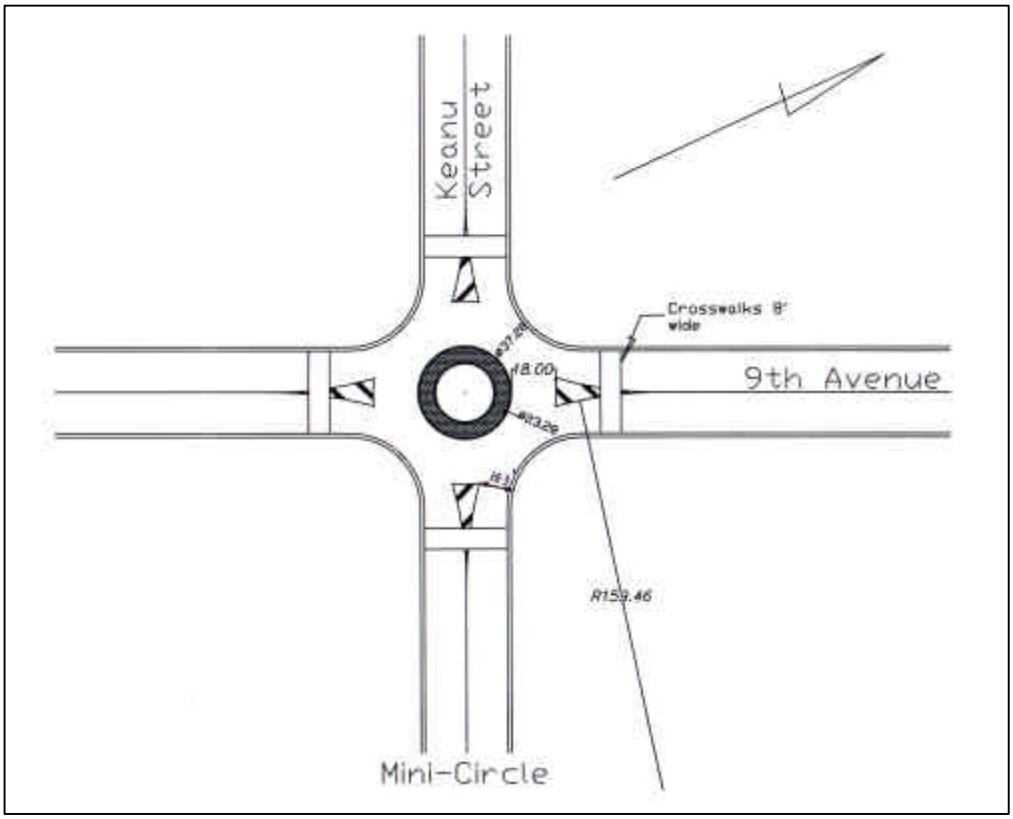
These intersections will be improved by slowing traffic speeds, providing better crossing opportunities for pedestrians and reducing the possible number of conflicts by eliminating a left turn.

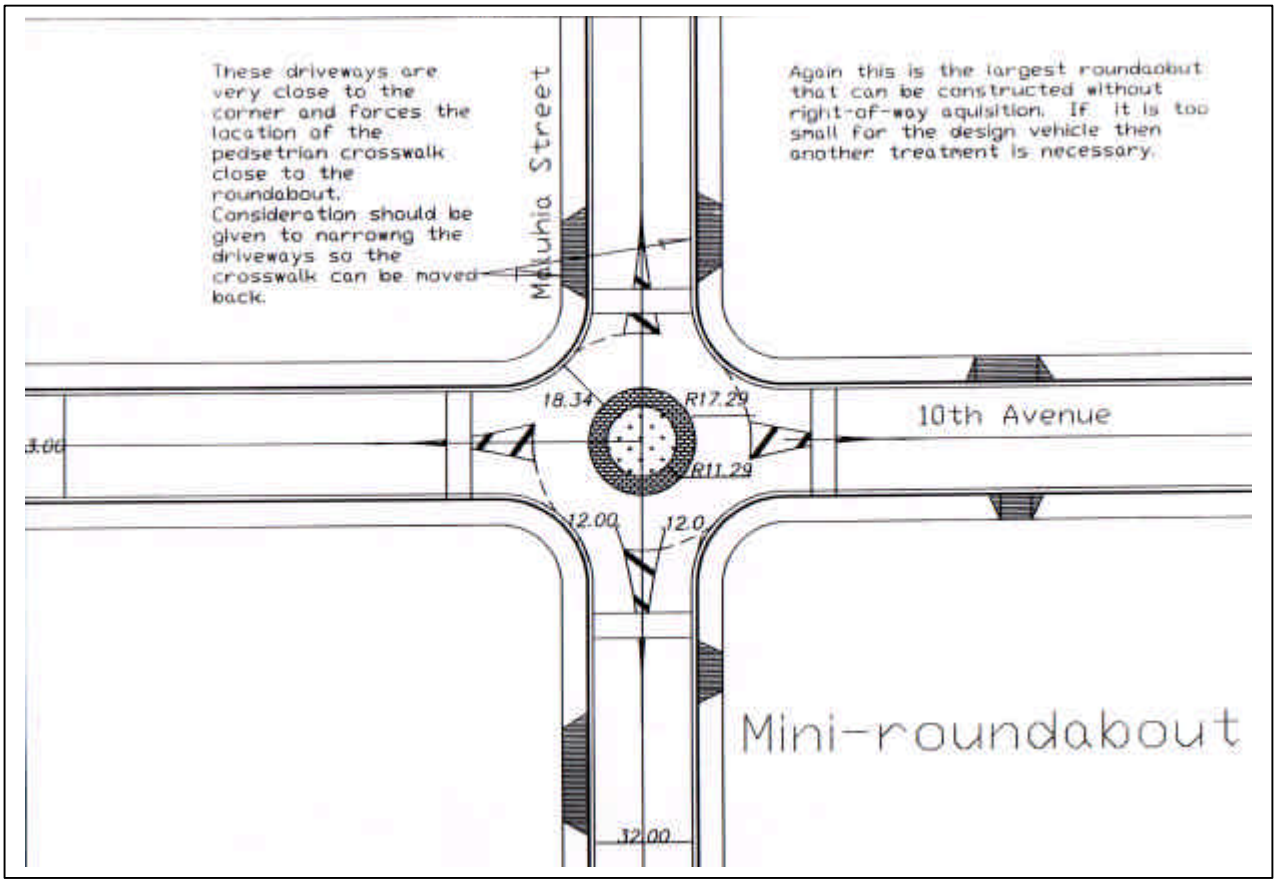

Hinahina Street
10th Avenue
18.34
R17.29
R11.29
12.00
12.0
32.00
Mini-roundabout

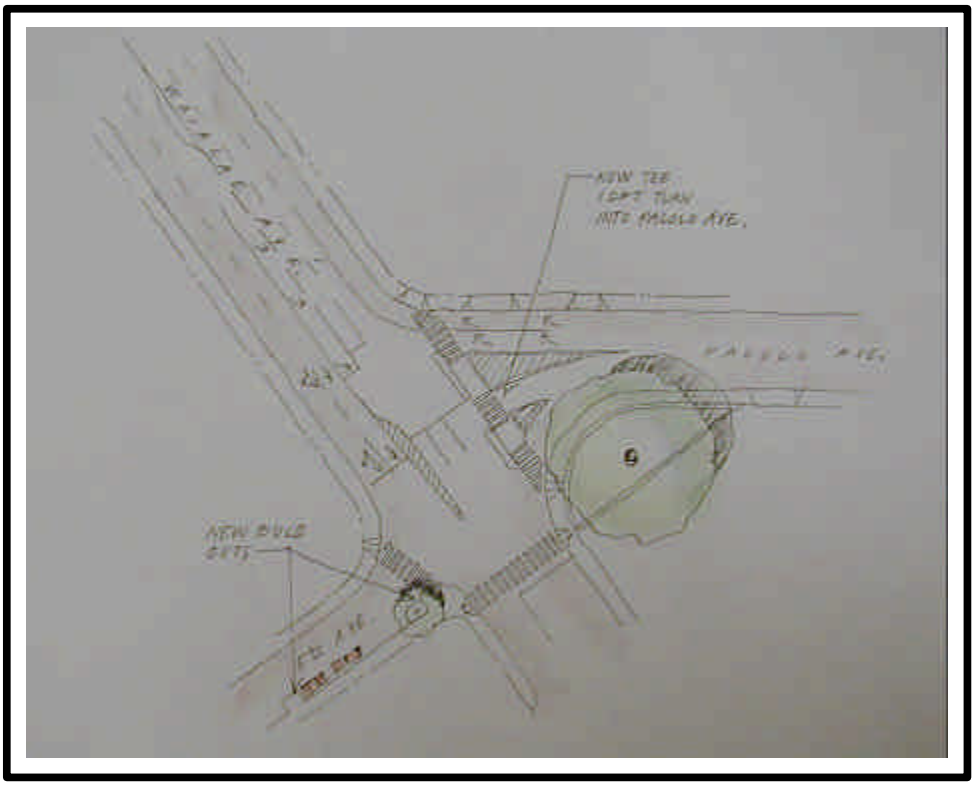

Hinahina Street
Scale 1 in = 40 Ft.
Crosswalks 8' wide
9th Avenue
32.00
Mini-roundabout


33.00
Kaau Street
Pedestrain ramps
2' wide yellow markings 9 feet centers
Crosswalks 8' wide
18.00
10th Avenue
12.04
12.75 Typ.
Double yellow lines
Existing Curb
Concrete splitter islands
Mini-Roundabout


33.00
Kaau Street
Pedestrain ramps
2' wide yello markings 9 feet centers
Crosswalks 8' wide
12.39
12.10
18.00
9th Avenue
33.00
12.13
Double yellow lines
12.34
Existing Curb


Keanu Street
Crosswalks 8' wide
18.00
9th Avenue
R159.46
Mini-Circle


These driveways are very close to the corner and forces the location of the pedsetrian crosswalk close to the roundabout. Consideration should be given to narrowng the driveways so the crosswalk can be moved back.
Makuhia Street
Again this is the largest roundabout that can be constructed without right-of-way aquisition. If it is too small for the design vehicle then another treatment is necessary.
18.34
R17.29
10th Avenue
R11.29
12.00
12.0
12.00
Mini-roundabout



Waialae and Palolo have been identified by residents as a "problem" intersection. At the charrette, neighbors in the Valley discussed problems making left hand turns into the Valley. Members mentioned having seen elderly walkers try to scurry across Palolo before turners "rocket" into the Valley or "peel out" of the Valley. There is a large school on the makai side of Waialae and a McDonalds restaurant that serves as a community gathering place on the mauka side.

The Traffic Calming Team worked with the Department of Transportation Services engineering staff to develop a design for this intersection that both facilitated pedestrians and reduced the potential for speeding into and out of the Valley. The left turn radius could be tightened so that turners must enter the Valley at slower speeds, which will also serve to help pedestrians. Two splitter islands were suggested in Palolo where it meets Waialae. These islands are intended as pedestrian refuge areas as well as tools to narrow the lane width and add more definition to the area in which cars may travel. A designated crosswalk has been proposed for the Koko Head leg of Waialae.

FOLLOW-UP WORKSHOP

The second neighborhood meeting was held on November 10, 1999. The purpose of this workshop was to visit with residents and present the designs the Traffic Calming Team had come up with as a result of the residents' comments from the September charrette. 43 participants turned out to review the proposed designs. Several good comments were made and the Traffic Calming Team responded as follows:

Q: What about a center median on Palolo at the intersection of Palolo and Orchid?

A: The Traffic Calming Team felt this was a good suggestion and has since added a center median on either leg of Palolo where it meets Orchid. This will serve to help pedestrians cross the road and slow traffic. The bus route turns left here from Palolo on to Orchid. The engineers will take this into consideration in their design.

Q: It does not appear that much has been done to slow traffic on 9th. What else might be done?

A: As a result of this comment, the Traffic Calming Team discussed with concerned residents following the workshop about placements of additional treatments on 9th. The result was what has been identified in this report. Now 9th is planned to have two mini circles. One at Kaau and one at Keanu, and one roundabout at Kalua. Aside from Kiwila, these roads are the major cross streets through the Valley. Treatments at these locations was important to a holistic traffic calming approach. A third mini-circle could be added at Hinahina and 9th.

Q: Has anything been done to slow traffic in front of the gas station on 10th?

A: At the time of the workshop, no treatments had been proposed for the stretch of 10th near the commercial district. After conversing with residents it became apparent that a mini circle with curb extensions was needed at the corner of 10th and Hardesty. This new feature will be seen from down the street and add a sense of place to the commercial district as well as slow traffic.

Q: Has anything been done for bikers in the plan?

A: While traffic calming in general improves conditions for bikers because the cars travel at slower speeds and bikers may keep up more easily, no specific treatments had been added before the workshop. Following the workshop, the Traffic Calming Team reviewed the roadway dimensions and determine that it would be possible to shift the centerline on both 10th and Palolo 4 feet Ewa. This would allow for a bike lane traveling mauka through the Valley on the spine streets. It was felt that a bike lane was not as necessary traveling downhill because bikers are more apt to maintain a speed closer to motorists.

Summary

The purpose of this process was to identify problems and issues, come up with workable solutions, and-- most importantly -- develop a sense of ownership and commitment by residents to solve the problems that affect their safety, property values and quality of life. Traffic calming is a citizen's hands-on program. It cannot be successfully conducted by government working alone. If you, the residents, feel that ownership has been achieved, then this project was worthwhile.

Next Steps

The process used to date has led to consensus building, workable solutions, and an effective partnership between the county and the neighborhood. The following additional steps are recommended. Following these steps provides assurance that issues will be properly addressed, costs minimized, and results will have their maximum effect. If ownership of the problems is still weak or lacking, don't give up. The following steps are vital.

(1) Form a neighborhood Transportation Task Team. This can be an independent group, which advises the neighborhood board or part of their committee structure. This team can be formed during the presentation of the final report. The team should consist of 6-12 members who will pledge to meet regularly to help refine the plan and work through implementation strategies with city staff.

(2) The neighborhood association or the transportation task team can also survey local residents (door to door) to share copies of this report, and to gain added insight and support. Palolo Valley appears to have a strong sense of community. For this reason other effective means of continuing building consensus might be to conduct Open Houses at an area residence or hold a block party or other event.

(3) To see visible changes immediately, residents should begin by being more cautious with their own driving in the Valley. Palolo is lucky in that all the roads are designed as two-lane. Motorists may only drive as fast as the prudent driver.

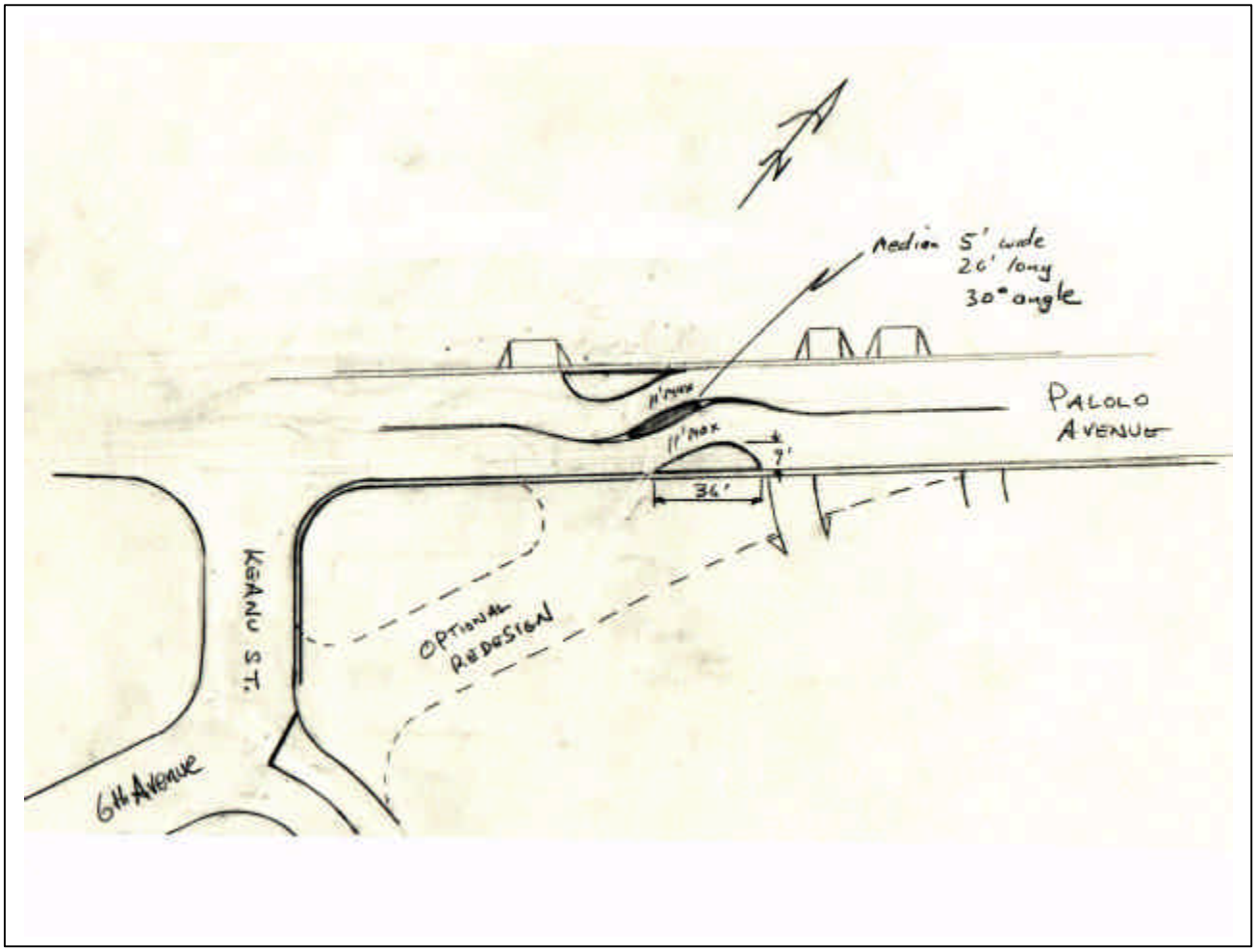
(4) Once the construction budget is allocated, schedule final engineering and contract improvements.

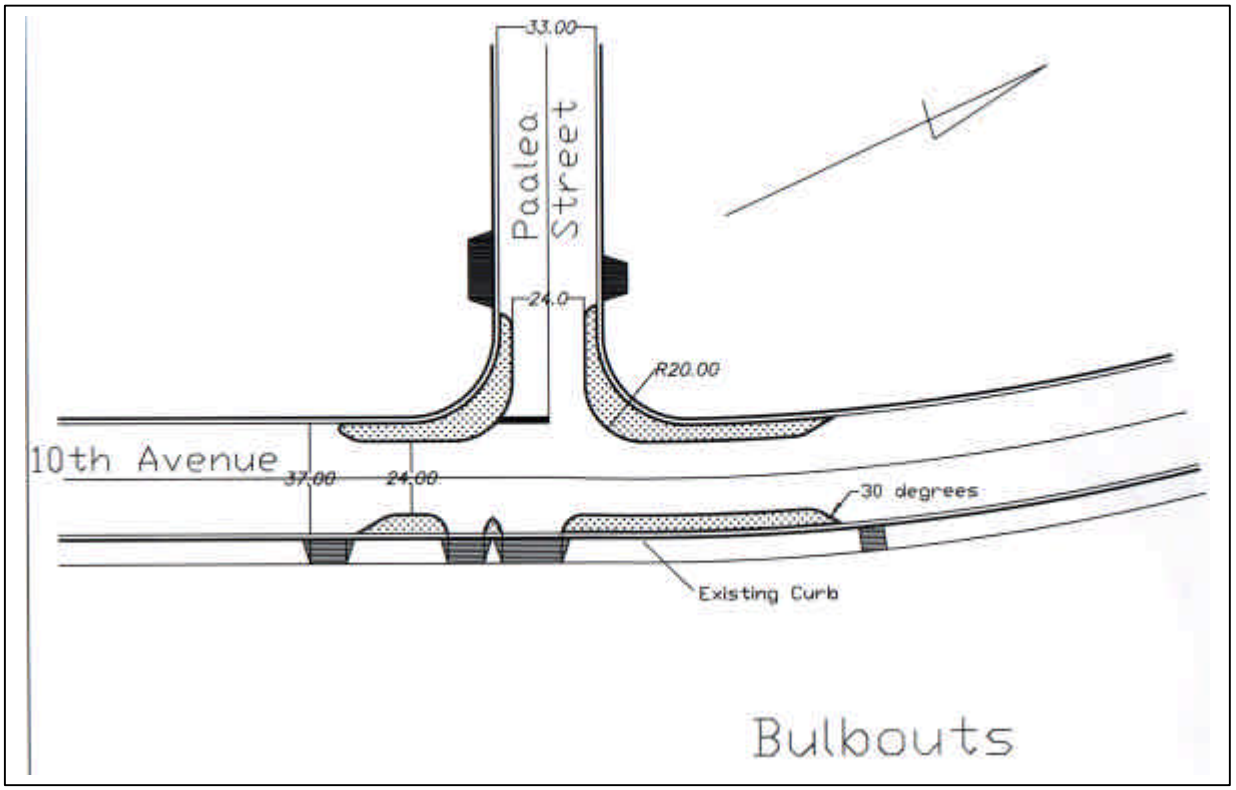
(5) Several of the recommendations included new landscaping features. The Transportation Task Team should work with their neighborhoods to determine who will care for the new treatments.

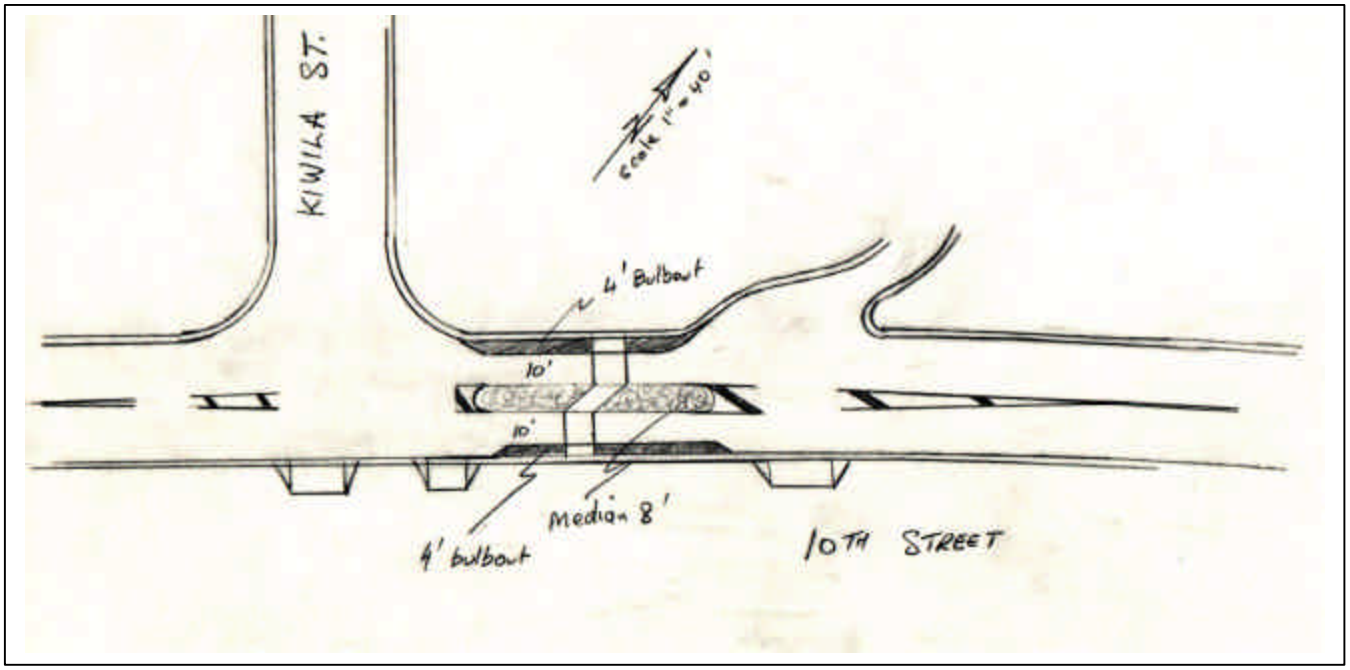
(6) Build new features

(7) Monitor the effectiveness of the measures over time.

Appendix A: Additional Palolo Conceptual Designs




33.00
Paalea Street
24.0
R20.00
10th Avenue
37.00
24.00
30 degrees
Existing Curb
Bulbouts


KIWILA ST.
4' Bulbout
10'
10'
Median 8'
4' bulbout
10TH STREET